

TWO NEW COMBINATIONS
IN *ELEOCHARIS* (CYPERACEAE)

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ABSTRACT

During a study of *Eleocharis* section *Pauciflorae*, and other species thought to be related, it became apparent that some nomenclatural changes were necessary. Two new combinations are proposed: *Eleocharis albibracteata* var. *boliviana* and *E. quinqueflora* var. *bernardina*.

RESUMEN

Durante el estudio de *Eleocharis* sección *Pauciflorae*, y de otras especies al parecer relacionadas, se detectó la necesidad de llevar a cabo cambios nomenclaturales. Son propuestas aquí dos combinaciones nuevas: *Eleocharis albibracteata* var. *boliviana* y *Eleocharis quinqueflora* var. *bernardina*.

Eleocharis R. Br. is a widely distributed genus of about 200 recognized species among its approximately 600 published names. The genus is receiving increasing attention because of the potential use of several species in aquatic weed management and in pollution abatement (Catling & Hay 1993). *Eleocharis* is morphologically uniform and has the following diagnostic features: inflorescence reduced to one spikelet, leaves reduced to tubular basal sheaths, and base of style persistent as a tubercle. Despite its morphological simplicity, a wide diversity of species groups have been recognized historically.

In the course of preparing a revised infrageneric classification of *Eleocharis* (González-Elizondo and Peterson, unpubl. data) and while working on a cladistic-phenetic analysis of section *Pauciflorae* (González-Elizondo et al. in press), it became apparent to us that two combinations were needed. A phenetic analysis of the species historically placed in *Eleocharis* section *Pauciflorae*, supports the recognition of *E. boliviana* Palla ex Svenson as a variety of *E. albibracteata* Nees & Meyen ex Kunth (González-Elizondo et

al. in press). Another combination is necessary to place *E. pauciflora* (Lightf.) Link var. *bernardina* (Munz & I. M. Johnston) Svenson in *E. quinqueflora* (Hartmann) Schwarz, the currently accepted name for the species. The two new combinations are given below.

1. ***Eleocharis albibracteata* Nees & Meyen ex Kunth var. *boliviana*** (Palla ex Svenson) S. González & P. M. Peterson, comb. et stat. nov. *E. boliviana* Palla ex Svenson, *Rhodora* 31:179. 1929. TYPE: BOLIVIA. La Paz, 3750 m, 1 Jan 1919, O. Buchtien 4482 (GH!).

Eleocharis boliviana (subgenus *Eleocharis* section *Eleocharis* series *Eleocharis* subseries *Truncatae*) was considered by Svenson (1929) as close to *E. albibracteata*, differing in "larger stature, paler spikelets, and more sharply angled achene, with less conspicuous reticulation and much narrower style-base." Comparison of the type of *E. boliviana* with specimens of the uncommon but widely distributed *E. albibracteata* showed that *E. boliviana* has relatively taller and thicker culms in separate fascicles on a long rhizome, and slightly narrower, prominently angled achenes. In all other aspects it is similar to *E. albibracteata*. Both species showed a very low intra-cluster phenetic distance in an analysis (González-Elizondo et al. in press), reflecting similar morphologies. These differences are not used at the species level by us and we prefer to treat *E. boliviana* at the variety level under *E. albibracteata*.

Representative specimens (all in US). Bolivia: 10 Aug 1901, *R.S. Williams* 2571; Andean Region, 4,000 m., *E. Asplund* 6398; Ecuador: *W. Jameson* s.n (US 534868).

2. ***Eleocharis quinqueflora* (Hartmann) Schwarz var. *bernardina*** (Munz & I.M. Johnston) S. González & P. M. Peterson, comb. nov. *Scirpus bernardinus* Munz & I.M. Johnston, *Bull. Torrey Bot. Club* 52:221. 1925. *Eleocharis bernardina* (Munz & I.M. Johnston) Munz & I.M. Johnston in *Munz, Man. S. Calif. Bot.* 68, 597. 1935. *Eleocharis pauciflora* (Lightf.) Link var. *bernardina* (Munz & I. M. Johnston) Svenson, *Rhodora* 31:174. 1929. TYPE: U.S.A. CALIFORNIA. SAN BERNARDINO CO.: South Fork of Santa Ana River, 8500 ft, *P.A. Munz* 6187 (POM!).

Eleocharis bernardinus (*Eleocharis* subgenus *Zinserlingia* section *Pauciflorae*) was reduced to a variety of *E. pauciflora* by Svenson (1929) and was later treated as a synonym of *E. pauciflora* (Svenson 1957). It differs from the typical *E. quinqueflora* (= *E. pauciflora*) by having thicker rootstocks, darker glumes with the lowermost usually sterile (often fertile in var. *quinqueflora*), obovoid achenes (narrowly obovoid in var. *quinqueflora*), high-conic tubercles, and rounded upper sheath apices that are sub-membranous (often oblique, acute, and ± firm in var. *quinqueflora*). Despite these differences, we consider the varietal rank adequate recognition since morphologically intermediate specimens have been made in Gunnison County, Colorado (1/4 mi SE of Gothic, 9,600 ft, 19 Jul 1959, *J. Barrell* 91-59, US!; Copley Lake, 2 or 3 mi NE of Kebler Pass, 16 Jul 1960, *J. Barrell* 116-60, US!).

Representative specimens (all in US). **U.S.A. Mono Co.:** Summit of Dana Plateau, vicinity of Mount Dana, 12,000 ft, 15 Jul 1937, *C. W. Sharsmith 2478*. **CALIFORNIA. San Bernardino Co.:** South Fork of Santa Ana River, 8,500 ft, 26 Jul 1926, *P. A. Munz 10804* (topotype). **Tulare Co.:** John Muir Trail w of Center Peak, 10,500 ft, 30 Jul 1948, *J. T. Howell 25196*.

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